

REMARKS

Claims 1 and 3-14 appear in this application. The Office Action of September 21, 2001, has been carefully studied. It is believed that all of the claims are allowable, and favorable action is earnestly requested.

Double Patenting

Claims 1 and 3-7 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of U.S. Patent No. 6,096,367. The Examiner alleges that it would have been obvious to mill the frozen ground fish meat to a size of 1 mm or less to reduce the amount of time required to thaw the meat.

This rejection is respectfully traversed. Claims 1 and 7 have been amended to recite that the frozen fish meat is thawed by milling the frozen fish meat and then thawing it by elevating the temperature without shearing. The present invention, as described in the specification as filed at page 3, lines 14-16, comprising almost uniformly milling a frozen ground fish meat mass and then elevating the temperature thereof. In the present invention, the particles must be substantially uniform in size. This cannot be obtained if the frozen fish meat is sheared, because JP 60-70049<sup>8</sup> specifically discloses that when uniform particles of frozen ground fish meat are sheared and ground, the range of the particle size

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becomes larger. That is, shearing produces large particles and small particles. Since large particles thaw more slowly than small particles, the frozen ground fish meat is not thawed uniformly. Thus, shearing makes the first step of the claimed invention meaningless, and cannot exert the advantageous effects of the present invention.

#### Claim Objections

Claims 10-12 are objected to because they are said to claim the same limitations as claim 6.

It should be noted that claim 6 originally claimed "the thawing method as claimed in any one of claims 1-5." This multiple dependency was removed in an amendment filed January 28, 1998, in which claim 6 was amended to depend solely on claim 1. Claims 10-12 were later submitted to depend from claims 3, 4, and 5, respectively. Therefore, it is believed that claims 10-12 do not contain the same limitations as claim 6.

#### Rejections under 35 U.S.C. 112

Claims 8-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

This rejection is respectfully traversed. Claim 8 has now been amended to clarify the terms recited. It is

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believed that the claims now conform to all of the requirements of 35 U.S.C. 112.

#### **Art Rejections**

Claims 1, 3-6 and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Long et al., CA 12131701.

This rejection is respectfully traversed. Long et al. disclose a method for producing meat products from raw meat cuts which are ground or otherwise comminuted, extruded into elongated homogenous strands which are quick frozen and then broken or cut into small particles or pellets to form freely flowable or pourable portions, which upon being thawed, do not exhibit significant loss of fluids (page 5, lines 16-22). Long et al. at pages 15 and 16, on which the Examiner relies, disclose discharging frozen strands of meat product into a comminuting apparatus. The meat is comminuted into particles in a two step process. After discharge from the dicing apparatus, the meat product in its frozen state may be packaged in suitable containers. As the meat product is packaged, it is preferably stored, preferably in the range of 0°F. The meat particles can be thawed by spreading a single layer of particles of the meat product onto a tray or plate at normal ambient temperature. Thus, Long et al. disclose comminuting frozen meat into particles, which are then stored in a frozen state.

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In contrast thereto, the present invention claims a process for thawing frozen fish meat by comminuting frozen fish meat and then thawing the frozen fish meat by elevating the temperature, without shearing. Long et al. do not attempt to solve the same problem as does the present invention, namely, providing a method for rapidly thawing frozen ground fish meat while maintaining its ability to gel at the maximum level. One skilled in the art reading Long et al. would not be motivated to use the process of the present invention to thaw frozen fish meat, as Long et al. are concerned with producing meat products which may be maintained in a frozen state.

Claims 7 and 14 are rejected under 35 U.S.C.103(a) as being unpatentable over Long et al. in view of Katoh et al. The Examiner concedes that Long et al. do not teach using a pin mixer to stir in additives. Katoh et al. are said to teach a method for processing fish paste by mixing in seasoning and starch using a pin mixer.

This rejection is respectfully traversed. Katoh et al. merely disclose that fish paste products can be prepared by stirring minced flesh with additives. This adds nothing to the disclosure of Long et al., which starts with fresh raw meat cuts which are ground or otherwise comminuted, extruded into strands which are then quick frozen, and then broken into

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small particles or pellets. These particles are designed to be free flowing when frozen, and there is no disclosure or suggestion of thawing the frozen particles at elevated temperatures.

Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Katoh et al. in view of Long et al. and JP 06133739A, hereinafter JP'739. The Examiner admits that Katoh et al. do not teach milling frozen, ground fish meat or heating with electricity. Long et al. are said to teach thawing frozen ground meat by milling the frozen meat and thawing with elevated temperature. JP'739 is said to teach a method for producing molded fish paste products by heating with electricity.

This rejection is respectfully traversed. As noted above, Long et al. begin with fresh meat which is comminuted or ground and formed into strands which are then quick frozen. These strands are broken in small particles or pellets which are free flowing and which can be maintained in a frozen state. Katoh et al. merely teach producing kamaboko by shearing the fish meat with suitable additives. It should be noted that Katoh et al. use frozen fish which has been thawed before being sheared. However, there is nothing in Katoh et al. that discloses how the frozen fish is thawed. JP'730 thus adds nothing to Long et al. and Katoh et al., because JP'739

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neither discloses nor suggests producing kamaboko by first milling frozen ground fish meat, thawing the milled fish meat by elevating the temperature, and mixing and stirring ground fish meat together with additives using a pin mixer.

None of the cited references discloses or suggests the particular combination of steps involved in the present invention, which combination of steps provides a method for rapidly thawing frozen ground fish meat while maintaining its ability to gel without causing deterioration in the qualities thereof.

In view of the above, it is respectfully submitted that the claims are now in condition for allowance, and favorable action thereon is earnestly solicited.

Respectfully submitted,

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"Version with markings to show changes"

1. (Fourth Amendment) A method for thawing frozen ground fish meat which comprises milling a frozen ground fish meat mass to a substantially uniform particle size and then thawing without shearing it by elevating the temperature. |

7. (Fourth Amendment) A process for producing materials for fish paste products which involves the step of milling a frozen ground fish meat mass ~~in to~~ a ~~substantially~~ uniform ~~manner, thawing the milled fish meat by elevating~~ particle size thawing said milled particles without shearing it by elevating the temperature to give a ground fish meat; and mixing under stirring said ground fish meat together with additives with the use of a pin mixer, wherein said additives include at least one of a seasoning, starch, sugar, and a polyphosphate. |

8. (Twice Amended) A process for producing kamaboko which comprises:

molding a material for fish paste products, which material has been produced by milling a frozen ground fish meat mass in a substantially uniform manner, thawing the milled fish meat by elevating the temperature to give a ground fish meat, and mixing under stirring said ground fish meat |

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together with additives using a pin mixer to form a molded  
product,

passing electric current through the molded product,  
this heating the molded product due to the electrical  
resistance within the same molded product,

subjecting the molded product to suwari gelation by  
heating for a definite time, and

then further heating the same.